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AMSAT NEWS SERVICE
ANS-125

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-125.01
ANS-125 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 125.01
>From AMSAT HQ SILVER SPRING, MD.
DATE May 5, 2013
To All RADIO AMATEURS
BID: $ANS-125.01

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* Volunteers are still needed to help at the AMSAT booth at *
* Dayton. We have about 20 people who have stepped forward, *
* but we could use a few more. If you are willing to spend a *
* couple of hours on Friday, Saturday, or Sunday to help at *
* the Hamvention, please send an e-mail NOW to Steve Belter, *
* n9ip(a)amsat.org. If you've volunteered, but not heard back *
* from Steve, please send him another note. Thank you! *
* *
* Monitor the 'AMSAT at Dayton Hamvention 2013' link on the *
* new AMSAT Web Site http://www.amsat.org for the latest *
* AMSAT at Dayton news and developments. *
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AMSAT SPACE SYMPOSIUM - Save the Date - November 1 - 3
Houston, Texas

Place: The Beautiful Marriott Hobby Airport Hotel
Phone: 713-943-7979

Ask For The AMSAT Block or Use the Code: AMSAMSA

The Space Symposium features a full array of talks by knowledgeable AMSAT members and others regarding satellite construction and operation, plus other space-related subjects.

The AMSAT Annual Meeting, held in conjunction with the Space Symposium, provides you the opportunity to hear about AMSAT's plans for the future and voice your own thoughts and opinions to AMSAT Board of Director members and other AMSAT officials.

For the AMSAT Space Symposium, the Marriott offers:

FREE parking (unusual for a large city hotel)
$94.00 per night room rate
FREE breakfasts, 2 per room per day
FREE WiFi throughout the hotel
FREE Airport Transportation

Watch for more information in the AMSAT Journal, future ANS Bulletins and the on AMSAT.org.

[ANS thanks AMSAT for the above information]

First Call for AMSAT Space Symposium Papers

This is the first call for papers for the 2013 AMSAT Annual Meeting and Space Symposium to be held on the weekend of November 1 - 3, 2013, at the Marriott Hobby Airport Hotel, Houston, Texas. Proposals for papers, symposium presentations and poster presentations are invited on any topic of interest to the amateur satellite community. We request a tentative title of your presentation as soon as possible, with final copy to be submitted by October 1 for inclusion in the printed proceedings. Abstracts and papers should be sent to Dan Schultz at n8fgv(a)amsat.org

[ANS thanks Dan Schultz, N8FGV, for the above information]

AMSAT Booth is Moving at Dayton, but not very far!

This year there will be some changes in the Ball Arena, and the AMSAT exhibit will be part of that change. For the past several years, we have been is a single line, directly across from the ARRL exhibit. Beginning this year, we will have a 3 X 3 booth arrangement, with the engineering and software display on one side of the aisle, and the donation and display area on the opposite side. The booth numbers are now 444-446 and 433-435. We will be very near the old exhibit area, within sight of the ARRL exhibit. The new Ball Arena layout should make access to all the exhibits easier.

[ANS thanks Alan, WA4SCA, for the above information]

Call for Papers: 2013 Digital Communications Conference

Amateurs are invited to submit papers for publication in the conference
proceedings of the ARRL/TAPR Digital Communications Conference that is taking place September 20-22 in Seattle, WA. You do not have to attend the conference to submit a paper for consideration.
Send papers by July 31 to:
Maty Weinberg
ARRL
225 Main St
Newington, CT 06111
 . . . or by e-mail to maty at arrl.org
Submissions will not be edited and authors will retain all rights.

[ANS thanks Steve Ford, WB8IMY for the above information]

Help Wanted: AMSAT News Service Rotating Editor Positions Available

The AMSAT News Service (ANS) is responsible for researching, writing, editing, and publishing the weekly amateur satellite news bulletins.

With the addition of a couple of volunteers this would generally involve taking a turn about every 3 to 4 weeks.

At present we a looking for interested satellite enthusiasts to join the ANS editorial team. Professional writing/editing experience is NOT a requirement. Your interest and enthusiasm in following and reporting on amateur radio in space will get you started! The ANS Editor team helps each other by rounding up items of interest. Plus we receive submitted items for publication ... so you won't be left all alone!

If you can commit to working on the bulletins for a week on a rotating basis please reply via e-mail to AMSAT News Service Editor Lee McLamb, KU4OS via ku4os at amsat.org.

[ANS thanks AMSAT Vice-President User Services, Gould Smith, WA4SXM for the above information]

NASA and Amateur Radio operators piece together the PhoneSat picture

For about one week, engineers at NASA's Ames Research Center, Moffett Field, Calif., and amateur radio operators around the world collaborated to reconstruct an image of Earth sent to them from three smartphones in orbit.

The joint effort was part of NASA's nanosatellite mission, called PhoneSat, which launched on Sunday, April 21, 2013 aboard the Antares rocket from NASA's Wallops Island Flight Facility in Virginia.

Although the ultimate goal of the PhoneSat mission was to determine whether a consumer-grade smartphone can be used as the main flight avionics for a satellite in space, the three miniature satellites used their smartphone cameras to take pictures of Earth and transmitted

these "image-data packets" to multiple ground stations. Every packet held a small piece of "the big picture." As the data became available, the PhoneSat Team and multiple amateur ham radio operators, who call themselves "hams," pieced together a high-resolution photograph from the tiny data packets.

"During the short time the spacecraft were in orbit, we were able to demonstrate the smartphones' ability to act as satellites in the space environment," said Bruce Yost, the program manager for NASA's Small Satellite Technology Program. "The PhoneSat project also provided an opportunity for NASA to collaborate with its space enthusiasts. Amateur radio operators from every continent but Antarctica contributed in capturing the data packets we needed to piece together the smartphones' image of Earth from space."

As part of their preparation for space, the smartphones were outfitted with a low-powered transmitter operating in the amateur radio band. They sent the image information to awaiting hams who worked with the Ames engineers to stitch together multiple, tiny images to restore the complete Earth view.

Piecing together the photo was a very successful collaboration between NASA's PhoneSat team and volunteer amateur ham radio operators around the world. NASA researchers and hams working together was an excellent example of Citizen Science, or crowd-sourced science, which is scientific research conducted, in whole or in part, by amateur or non-professional scientists. On the second day of the mission, the Ames team had received over 200 packets from amateur radio operators.

"Three days into the mission we already had received more than 300 data packets," said Alberto Guillen Salas, an engineer at Ames and a member of the PhoneSat team. "About 200 of the data packets were contributed by the global community and the remaining packets were received from members of our team with the help of the Ames Amateur Radio Club station, NA6MF."

The mission successfully ended Saturday, April 27, 2013, after predicted atmospheric drag caused the PhoneSats to re-enter Earth's atmosphere and burn up.

"The NASA PhoneSat Team would like to acknowledge how grateful we are to the amateur radio community for contributing to the success of this mission," said Oriol Tintore, an engineer and a member of the PhoneSat Team at Ames who participated in the picture data processing.

The PhoneSat project is a technology demonstration mission funded by NASA's Space Technology Mission Directorate at NASA Headquarters and the Engineering Directorate at NASA Ames Research Center. The project started in summer 2009 as a student-led collaborative project between Ames and the International Space University, Strasbourg.

These results will encourage further research into applying low-cost terrestrial technologies to space applications and also may open space to a whole new generation of commercial, academic and citizen-space users, according to Yost.

For more information about the PhoneSat mission and the participation of the radio amateur:
http://www.phonesat.org

For more about information about NASA's Small Spacecraft Technology Program and the PhoneSat mission, visit:
http://www.nasa.gov/smallsats

NASA's Space Technology Mission Directorate is innovating, developing, testing and flying hardware for use in future science and exploration missions. NASA's technology investments provide cutting-edge solutions for our nation's future.

For more information about NASA's Space Technology Mission Directorate, visit: http://www.nasa.gov/spacetech

[ANS thanks AMSAT-UK for the above information]

Conferences and Events related to Space Scheduled in May

May 5-8 The Planetary and Terrestrial Mining Sciences Symposium
Toronto, Canada http://sqm.me/YtaMk7

May 6-8 Humans to Mars Summit
Washington, D.C. http://sqm.me/WryTcP

May 7-8 Global Space & Satellite Forum
Abu Dhabi, UAE http://sqm.me/WZgtzy

May 13-17 Reinventing Space Conference 2013
Los Angeles, California http://sqm.me/UqVKHS

May 15-17 7th Argentine Congress on Space Technology
Mendoza, Argentina http://sqm.me/XBNfqp

May 15-17 ASTRA 2013-12th Symposium on Advanced Space Technologies in Robotics and Automation
Noordwijk, Netherlands http://sqm.me/Y4EU1a

May 21-23 Space Technology Expo
Long Beach, California http://sqm.me/yVlvwu

May 23-27 2013 International Space Development Conference
San Diego, California http://sqm.me/14jg69a

May 28 iCubeSat 2013
Ithaca, New York http://sqm.me/10X0Mkt

[ANS thanks SPACE QUARTERLY for the above information]

ARISS News

Sucsessful Contacts

+ Bates College Museum of Art, Lewiston, ME, telebridge via IK1SLD

A succesfull International Space Station school contact has been completed with participants at Bates College Museum of Art, Lewiston, ME on 23 Apr. The event began at 14:38:47 UTC and lasted approximately 9 minutes and 30 seconds. The contact was a telebridge between OR4ISS and IK1SLD. The contact should be audible over Italy and adjacent areas. Interested parties are invited to listen in on the 145.80 MHz downlink. The contact is expected to be conducted in English.

In an arrangement proposed by the Bates College Museum of Art in conjunction with our 2012 exhibition Starstruck: The Fine Art of Astrophotography, local 8th Grade students comp,leted a talk with astronauts on the International Space Station, through the Amateur Radio on the International Space Station program (ARISS). Students from the Auburn and Lewiston middle schools took part in the live radio communication. Members of ARISS were excited by how our project brought the world of art and creativity into a program aimed at science, technology, engineering and math classrooms. To prepare for the contact, students visited the exhibition as part of their space science unit, researched comets and geomagnetic storms, modeled the solar system, explored citizen-science projects like Galaxy Zoo, and, using NASA's Astronomy Picture of the Day as a model, researched Starstruck images and wrote paragraphs explaining their significance. It is gratifying to see an art exhibition ignite so much interest in such a wide variety of subjects, and especially to see a reunification of art and science achieved through this exhibition and the ARISS program.

Senators Angus King and Susan Collins and Congressman Michael Michaud were invited to attend the event.

+ Maani Ulujuk Ilinniarvik (MUI), Rankin Inlet, Nunavut, Canada

A successful International Space Station school contact was completed with participants at Maani Ulujuk Ilinniarvik (MUI), Rankin Inlet, Nunavut, Canada and Chris Hadfield, KC5RNJ/VA3OOG on station OR4ISS on 25 Apr. The event began at 14:34 UTC, and lasted approximately 9 minutes and 30 seconds. The contact was a telebridge between OR4ISS and IK1SLD. The contact was audible over Italy and adjacent areas and was conducted in English.

Maani Ulujuk Ilinniarvik (MUI) is located in Rankin Inlet, Nunavut (Population Approximately 3000) on the North west side of Hudson Bay. It is one of three schools in the Rankin Inlet system and hosts grades 7 - 12. The current Maani Ulujuk building is approximately 32 years old and is the second of two buildings with the same name; the first being destroyed by fire. MUI was named after an Elder (Maani Ulujuk), who at the time of its naming, was the oldest elder in the community. There are 353 students, 24 teachers, 6 Student Support Assistants, 1 Secretary, 1 School Community Counsellor and 2 caretakers.

Even though we don't have a space club, we do have a vibrant Science program which hosts a science fair annually and students have been exposed to the space program in the curriculum. Students and staff were excited last year when we were slated to do a space hookup in April; however, it did get cancelled and we are pleased that it is on again for this year.

Students at MUI are great young leaders and they love to participate in novel events such as contacting the astronauts on the Space Station. This will be an awesome event and we look forward to participating.

+ Istituto d'Istruzione Superiore Euclide, Bari, Italy

A successful International Space Station school contact has been completed with participants at Istituto d'Istruzione Superiore Euclide, Bari, Italy and Tom Marshburn, KE5HOC, on station OR4ISS on 27 Apr. The event began at 11:17:19 UTC. The duration of the contact

was approximately 9 minutes and 30 seconds. The contact was direct between OR4ISS and IZ7RTN, and was audible over Italy. The contact is expected was conducted in English.

Euclide School is a high school. It is an aeronautical school in Bari. There are boys and girls, aged 14-18. Bari is located in the South-east of the APULIA region, South-east of Italy. In its Curriculum the school focus on: aeronautical studies, Media Communication, Space Communication, the Environment, Science activities in lab. In this school there are the following laboratories: a chemistry; a physics; CAD; Topography and Photogrammetry; Aerotechnics; Radio and Radar Systems; Informatics (2 labs); Air Navigation; Meteorology; Air Traffic; There are also: an outdoor multigame Basketball/Volleyball court; a library with several PC; a staff room with a PC; a press office; HDSL Internet connection; an auditorium; 30 classrooms.

+ Polyvalente de Black Lake, Thetford Mines, Quebec, Canada

A successfule International Space Station school contact has been completed with participants at Polyvalente de Black Lake, Thetford Mines, Quebec, Canada and Chris Hadfield, KC5RNJ/VA3OOG on station NA1SS on 29 Apr. The event began at 17:25:29 UTC and continued approximately 9 minutes and 30 seconds. The contact was direct between NA1SS and VA2VDL, and was audible over portions of eastern Canada. The contact was conducted in English.

Black Lake has an elementary school with only grades 5 and 6, secondary school and professional centre for students who want to do a D.E.P in esthetics, all in the same building. The esthetics have the top floor, the secondary has the 2 middle floors and grade 5 and 6 has the first floor. They have an intensified English program for the grades 5, 6 and this continues all through secondary. This program is only available for the top students who passed a test.

+ Guilford County Schools, Greensboro, NC

A successful International Space Station school contact has been completed with participants at Guilford County Schools, Greensboro, NC and Tom Marshburn, KE5HOC, on station NA1SS on 02 May. The event began at 14:52:47 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact will be direct between NA1SS and W4GSO and was audible over portions of the eastern US and Canada. The contact was conducted in English.

Ronald E. McNair Elementary is a K-5 public school located in Browns Summit, N.C. McNair Elementary is a part of Guilford County Schools, North Carolina's third largest school district, which serves more than 72,000 students. The school is in its first year and recently moved into a brand new facility. The 88,900 square-foot school building features sustainable materials, natural lighting in hallways, solar panels for water heating, light sensors, a light-colored roof to reduce heat gain, an integrated fresh-air system, sun shades for large windows and low-flow plumbing fixtures. All classrooms have access to outdoor learning environments. Vegetation has been planted to grow up green screens that will provide shade over outdoor patio areas. Additionally, the art and science labs are equipped with movable exterior wall systems, allowing the classrooms to literally open up to the outdoors when weather permits and facilitate an indoor/outdoor classroom space. Students attended their first day in the new school on Feb.4, 2013. The school is named for astronaut and physicist Dr. Ronald E. McNair, who received his

bachelor's degree from nearby North Carolina A&T State University. He was one of seven crew members killed on the Space Shuttle Challenger in 1986. Currently, about 488 students are enrolled.

+ Hay River, NWT, Canada,

A successful International Space Station school contact has been completed with participants at Hay River, NWT, Canada and Chris Hadfield, KC5RNJ/VA3OOG on station NA1SS on 03 May. The event began at 19:55:32 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact was a telebridge telebridge between NA1SS and VK4KHZ and was audible over central Australia. The contact was conducted in English. No further information was available at press time.

Upcoming Scheduled ARISS Contacts

The Gary Literacy Coalition, Inc, Gary, IN, direct via KC9JQN
Contact is a go for: Wed 2013-05-08 19:35:44 UTC 63 deg
Contact should be audible over parts of the Midwestern USA and Canada

Yellowknife R.C.M.P. Headquarters, Yellowknife, NWT, Canada, telebridge via K6DUE
Contact is a go for: Sat 2013-05-11 18:46:05 UTC 48 deg
Contact should be audible over parts of the Eastern USA

ARISS is requesting listener reports for the above contacts. Due to issues with the Kenwood radio that are not fully understood at present, the Ericsson radio is going to be used for these contacts. ARISS thanks everyone in advance for their assistance.

[ANS thanks ARISS, Dave for the above information]

Satellite Shorts From All Over

+ NASA invites public to send names and messages to Mars
NASA is inviting members of the public to submit their names and a personal message online for a DVD to be carried aboard a spacecraft that will study the Martian upper atmosphere.

http://tinyurl.com/can8ojv

+ Ham radio balloon on KFDM TV

Radio amateurs in Beaumont released a ham radio near space balloon, to bring attention to the club's communication abilities

The balloon reached an altitude of 93,000 ft and featured on a KFDM TV news broadcast.

Watch Ham radio operators release a high flying balloon

Beaumont Amateur Radio Club
http://www.qsl.net/w5rin/

[ANS thanks Southgate Amateur Radio News for the above information]

+ Small meteoroid causes 'bullet hole' in ISS solar panel

Making his photographic rounds of the Earth and the space around the International Space Station today, Commander Chris Hadfield captured one picture that inspires a bit more alarm than awe.
Just down and left from the centre of the image, there's a bright spot on one of the solar panels, that was caused by a small object, probably a meteoroid, flying through the panel.

http://tinyurl.com/ckstjns

[ANS thanks Kevin Fetter and seesat-l for the above information]

+ New price for flights to the ISS will be $71 million per person from 2017.

Current price paid by NASA is $55.8 million per person and that is due to rise to $62.75 million next year, a year or so ago they were paying $51 million, see

http://tinyurl.com/d9yr98s

[ANS thanks Trevor M5AKA for the above information]

+ The Center for the Advancement of Science in Space (CASIS)

CASIS Academy is an interactive learning website created to educate middle school students about the ISS and to pique their interest through multimedia videos and features.

The website incorporates multiple sections, including breakthroughs resulting from ISS research, a tour of the station and interactive definitions of key terminology.

Statistically, U.S. students are most likely to lose interest in science fields while in the middle grades. CASIS Academy targets students at this critical age, using the excitement of space as a tool to maintain and improve interest in science, technology, engineering and mathematics (STEM) careers.

"The unveiling of CASIS Academy highlights a core function of our organization: advocating the ISS National Lab as a STEM-learning platform," said CASIS Interim Executive Director Jim Royston. "Educating students on the innovative advances that have come from ISS exploration and the opportunities that exist in microgravity will inspire today's students to pursue careers in science and engineering tomorrow."

CASIS decided to unveil CASIS Academy at the National Science Teachers Association conference in San Antonio, Texas, due to the abundance of science educators in attendance.

For more information, please visit
www.casisacademy.org.

Educator resources complementing CASIS Academy, aligned to support national education standards, can be found at
www.iss-casis.org/educators.

[ANS thanks SatMagazine for the above information]

+ The May issue of SatMagazine is now online
http://www.satmagazine.com/2013/SM_May2013.pdf

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org